

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

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CONTENTS

	PAGE
Editorial Comment	
Prevention of Accidental Stalling	515
The Vauville Meeting	517
At Flower Down	525
On the Prevention of Accidental Stalling: By M. L. Bramson ..	526
The Savage-Bramson Anti-Stall Gear	526
Personals	528
Royal Air Force	529
R.A.F. Intelligence	529
In Parliament	529
Egypt-India Air Service	530
Royal Air Force Memorial Fund	530
Society of Model Aeronautical Engineers	530

EDITORIAL COMMENT.



It is an incontrovertible fact that out of the various possible causes of aeroplane crashes, by far the most frequent is that of stalling at a low altitude. It is equally true that no experienced pilot is likely accidentally to stall his machine unless he is concerned about something or other to such an extent that for the moment he loses sight of the all-important question of maintaining his flying speed. Machines differ very considerably in the manner in which they stall, some sinking fairly slowly, while others stall violently and require a long dive before again coming under control, but all machines will stall under certain conditions.

It has repeatedly been pointed out in FLIGHT that even controllability at angles well above the stalling angle does not provide a cure for the evil, since a machine descending at angles above its stalling angle is dropping at a relatively high rate, and an under-carriage capable of absorbing the shock of a stalled landing, even if mechanically possible, would be so heavy and ungainly as to be out of the question on that score. Controllability at the stall does help, but it is only one among many factors affecting the issue.

Apart from the question of aerodynamic design, attempts have repeatedly been made to provide some means of warning the pilot that he is approaching a stall, but of those which have hitherto come to our notice it may be said that without exception they depended upon principles which add at least one more instrument to the already considerable number which the pilot has to watch. This is not, however, the case with the Savage-Bramson anti-stall gear, described and illustrated in this week's issue of FLIGHT, which is connected up to the control stick, and the action of which is to give a sharp blow on the control stick when the aeroplane has reached a pre-determined angle, somewhat below the stalling angle. Not only this, but unless the pilot deliberately overcomes the force exercised by the anti-stall gear, the

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

1925

- July 26-Aug. 9 Vanville Light 'Plane and Glider Meeting.
- Aug. 1-3 Royal Aero Club Race Meeting at Lympne.
- Sept. 19-28 F.I.A. Conference at Prague.
- Oct. 8 Aero Golfing Soc. Autumn Meeting, Walton Heath.
- Oct. 24-29 Schneider Cup Race, Baltimore, U.S.A.

1926

- Aug. Light Aeroplane Competition.

device actually performs the necessary manoeuvre of pushing the nose of the machine down.

The details of the device are described elsewhere, but stress may be laid here on the fact that the great merit of the Savage-Bramson instrument, apart from its mechanical simplicity, light weight, and the fact that it acts at the one place where the pilot will always heed the warning, *i.e.*, on the control stick, lies in the use of the angle of incidence as a basis for bringing the device into action.

We believe that originally Mr. Bramson, the inventor of the anti-stall gear, had intended to use the air-speed for this purpose, but upon reflection he abandoned this in favour of the incidence. Using the air-speed as a basis, wing loading would play an important part, but by choosing the angle of incidence the device will always come into operation at the one particular angle of incidence for which it is set, no matter what the wing loading, although the air-speed corresponding to that angle will, of course, vary with the load.

That the device performs its duties satisfactorily was shown in a demonstration flight some few weeks ago which Mr. Bramson made at Hendon for our benefit, and it is difficult to imagine any conditions under which the device could possibly be a disadvantage. During a glide towards a field or aerodrome the machine may approach the stalling point and the device will remind the pilot of the fact by giving the control stick a smart tap forward. If this should happen very close to the ground and the pilot desires deliberately to stall his machine on to the ground, he has only to overcome the pressure of the gear, which can always be so adjusted as not to exceed the physical power of the pilot. Similarly, a machine may be approaching the stall on a climb. This is most likely to happen to machines tending to be under-powered, and here again the device will reduce the angle of climb until a safe angle of incidence has been reached. In a very steep banked turn it is possible to stall a machine, centrifugal force throwing the machine outward and causing it to stall. Here also the device will remind the pilot that he is approaching stalling point.

Almost the only manoeuvre during which it is conceivable that the anti-stall gear might not be an advantage is during a roll. If, for instance, the vane operating the release valve is mounted on one of the starboard inter-plane struts, and the pilot commences a right-hand roll, it is conceivable that the relative path of the vane through the air will be such that the air strikes underneath it, thus lifting it and causing it to open the release valve, bringing the gear into operation. Since, however, the force on

the stick is always so proportioned that it can, if desired, be overcome by the pilot, this should be no serious objection, and one arrives at the conclusion that the anti-stall gear should be a very distinct advantage on every type of machine, military no less than commercial.

A secondary effect of fitting the anti-stall gear is that to a considerable extent it relieves the pilot of the necessity of constantly watching his air-speed indicator, and, as Mr. Bramson has pointed out in one of his series of articles published in *FLIGHT*, even the air-speed indicator may be an unreliable guide if the machine happens to be decelerating rapidly, because the pilot may have glanced at his instrument at one instant, and found his air-speed well above the stalling speed, but may fail to take into account the fact of deceleration, so that while he is preoccupied with other things his machine may be constantly losing speed without him being aware of the fact. With the anti-stall gear fitted, however, if this should happen the pilot would be reminded of the fact by the sharp blow on the control stick, and thus, far from adding to the pilot's mental work, the anti-stall gear actually reduces it.

There may be snags in the Savage-Bramson anti-stall gear, but it is difficult to discover any, and very extensive flying tests at Hendon on Major Savage's S.E. 5's have failed to reveal any defects in the mechanism. Last, but not least, the anti-stall gear is very simple mechanically, and of absurdly low weight, so that it can be fitted to even the smallest aeroplane without adding any load that could possibly have any influence on the behaviour of the machine. This is, of course, merely another way of saying that the gear can be fitted on light 'planes, and we do most earnestly suggest that the gear should be fitted as standard on all new machines supplied to the new Light Aeroplane Clubs. If this is done we feel quite convinced that a number of crashes will be avoided, and that in this manner the Savage-Bramson anti-stall gear may assist very materially towards that safety which alone can inspire confidence in the section of the public to whom it is at the moment greatly desired to appeal.

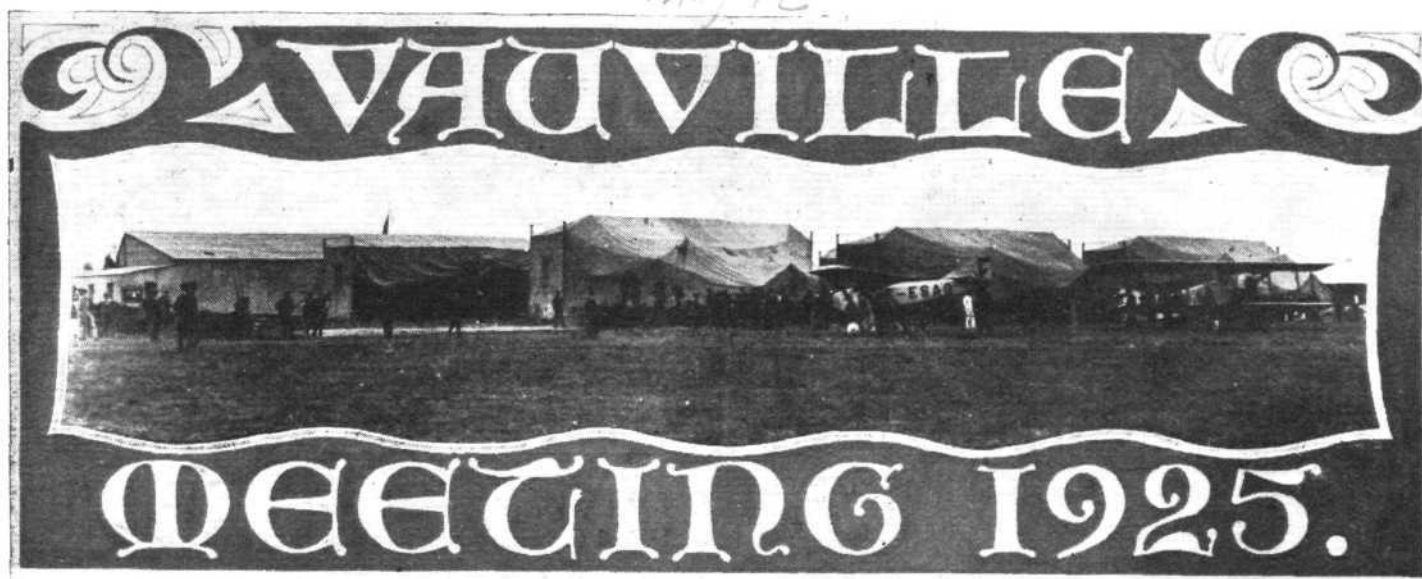
We do not for one moment mean to suggest that the gear should not be fitted to other than light 'planes; on the contrary, we think it should be made compulsory for all commercial machines to be equipped with it, and the number of crashes in the R.A.F. seems to indicate that if the gear were made compulsory on service machines also the nation might be saved the loss of many precious lives, not to mention a considerable amount of valuable flying stock, as probably many of these crashes are caused by stalling.

Eight New American Air Mail Routes Proposed

FOLLOWING quickly upon the establishment of an over-night service between New York and Chicago, news has now come to hand that the development of commercial aviation in the United States is taking very rapid strides as a result of the recent law under which the Postmaster-General has invited tenders for the carrying of mail on eight new routes, aggregating 4,763 miles, and connecting the principal cities of the country. For more than a year the United States Post Office Department has maintained a transcontinental service of 2,680 miles, by day and night flying. The tenders will be opened on September 15, and the law provides that four-fifths of the revenue derived from postage shall be the maximum that can be paid to contractors for the service. Contractors may, in addition to mail, carry goods and passengers at such rates as they desire to impose. The air mail postage is fixed at 10 cents an ounce for 1,000 miles or

less, 15 cents for 1,000 to 1,500 miles and 20 cents for more than 1,500 miles. Contractors must be American citizens, contracting corporations must be 75 per cent. American owned, and aircraft used must be of American manufacture.

The Government is anxious to relinquish the operation of aeroplanes solely for air mail service as soon as practicable, and turn over the carrying of the mails to private enterprise on a contract basis in the same manner as it now uses the railways. Several aviation companies have recently been organised, one of the foremost, the National Air Transport, having a capital of \$10,000,000. Mr. Henry Ford, the world-famous motor manufacturer, who has an interest in the service between Detroit and Chicago, is also reported to be supporting a new company. The Pullman Co., saloon and sleeping car manufacturers, has announced its intention of manufacturing aeroplanes with sleeping berths, which will be leased to flying companies.



"CAMP MANEYROL": On the left may be seen the permanent hangar, dedicated to the late Jean Hemmerdinger. In this the offices of the A.F.A. are situated, as well as the meteorological service, telephone service, etc. On the right the tent hangars, which are of excellent design, with steel tube framework. The machine on the right is a Caudron school biplane used for giving exhibition flights, "joy-rides," etc.

THE two weeks' meeting for light 'planes and gliders organised by l'Association Francaise Aerienne has now concluded, and if the light 'plane section of the meeting has not resulted in the production of machines of outstanding merit, it has, at any rate, produced quite a number of machines with really good flying qualities, the reliability of which has been thoroughly tested by the stipulation that machines must cover the 70 kilometre course once daily throughout the meeting. As regards the gliders, several very excellent performances have been put up, and at least two world's "records" have been established, namely, for duration and altitude. Whether any useful purpose is served by a glider remaining in the air for a whole day does not greatly affect the argument.

Before placing before our readers a record of the more outstanding performances, it may not be without interest to give a brief reference to the Vauville station, which has now been established as a permanent centre, and to the conditions governing the experiments in this year's meeting. At the outset it should be pointed out that the Vauville meeting was not, nor was it intended to be, in any sense a race, although considerable prizes were offered for certain specified performances. This is indicated by the official title of the meeting: "Meeting Experimental de Vauville."

The actual site used at Vauville is a small plateau behind the bay of Vauville, and is situated between the villages of Vauville to the north and Biville to the south. The coast line at this point faces SSW., and there are fairly steep slopes from the plateau on which is situated the aerodrome down to the sand dunes which separate the foot of the hills from the actual beach. The site was chosen as a result of the flights made there by the late M. Maneyrol, and later by such well-known glider pilots as Thoret, Simonet, Descamps, and Barbot. With the support of M. Laurent-Eynac, the French

Under-Secretary of State for Air, the site was permanently acquired for use in actual full scale experiments, and a permanent camp has now been established. This year a permanent hangar, which it is hoped is only the first of several, has been completed, and bears the name of the late M. Jean Hemmerdinger. The camp itself is known as Camp Maneyrol,

in memory of the famous French pilot who established a world's glider record at Itford in 1922, and who lost his life by the collapse of his machine in the air at Lympe in 1923. When the A.F.A. took over Camp Maneyrol the surface was entirely covered with gorse and heather, and a great deal of work must have been put in before the surface became at all suitable for service as an aerodrome. Even now it is none too good, and machines require either very skilful piloting or very substantial undercarriages to avoid crashes. For use by gliders the site appears to be extremely suitable, as the prevailing winds are, we understand, from south-west, in other words, blow towards the steep slopes, and thus give rise to ascending currents. With this wind direction, however, the aerodrome is less suitable for power-driven machines, since there are hedges, trees and other obstacles behind the camp, while the aerodrome itself slopes towards the sea, very gradually at first and then steeper and steeper, until it terminates in slopes of roughly one in one. Machines with a good sliding angle are particularly difficult to land on the aerodrome, especially if there is little or no wind, since the approach from the landward side has to be made at a fair height and the slope of the aerodrome is such as almost to



M. Carlier, President of the French Aerial Association, who was in charge of the organisation at Vauville.

correspond with the gliding angle of an efficient aeroplane. With easterly winds, however, when gliding is not possible, the aerodrome is much more suitable for power-driven machines, which can then come in from the seaward side and land into the wind, and slightly uphill. Behind the sand dunes, between the coast and the base of the slopes, there is

a stretch of marshy land, and at times it is a matter of some difficulty to reach gliders which have alighted there, but with the aid of a Citroën-Kegresse tractor the machines are usually hauled out of the swamp fairly easily and brought back to the aerodrome at the top of the hill.

In theory, Vauville is reached from Cherbourg by "auto-bus," but in practice it was found that this service was not all that might be expected, but again in this connection one should bear in mind that Camp Maneyrol was established for the benefit of designers, constructors and inventors, and not

for the purpose of providing an aerodrome easily reached by the general public. The distance from Cherbourg to Vauville is approximately 23 kms., along roads which for the most part are good except the last 5 kms. or so, when the main road is left and the rest of the journey made along what are little more than country lanes.

From the aerodrome one can see on clear days the Channel Islands, but usually, we understand, the atmosphere is too misty for this to be possible, and a feature of this region is the sudden changes of weather experienced.

THE 1925 VAUVILLE MEETING

For the organisation of this year's meeting at Vauville, the French Aerial Association (usually abbreviated to "A.F.A.") was, as usual, responsible, and the meeting was under the patronage of the Under-Secretary of State for Air, M. Laurent-Eynac, as well as being supported by the Municipality of Cherbourg and the Département de la Manche. In all, prizes totalling more than 100,000 francs were offered, and the tests to be carried out were divided into three main sections or classes: Class I, for light 'planes (Avionettes); Class II, for gliders; and Class III, for instruments.

Originally, machines of Class I were to be recompensed to the extent of 51,000 francs, to which, however, certain amounts were added later. For gliders prizes totalling 41,000 francs were offered, another 5,000 francs being available as rewards to inventors of any new special instruments.

13,500 francs were also awarded for the greatest average speed during the two weeks, or, in other words, for the fastest total time, the first prize being one of 8,000 francs, the second of 4,000 francs, and the third of 1,500 francs.

The consumption test consisted in covering the course twice, or, in other words, a distance of 140 kms. For the consumption tests, the first prize was one of 2,500 francs; second prize, 1,500 francs; and third prize, 1,000 francs; the competitor securing first being the one to cover the distance of 140 kms. with the smallest consumption of fuel.

In the altitude tests, to qualify in which a height of at least 3,000 metres had to be attained, there was a first prize of 5,000 francs, a second prize of 3,000 francs, and a third prize of 2,000 francs.



THE DEMONTY-PONCELET LIMOUSINE, 45 H.P. ANZANI: This is the winning machine in the light 'plane class. Standing in front of the machine are (from left to right) M. Poncelet, the constructor, M. Van Opstal, the pilot, and M. Demonty, the designer of the machine.

The tests to be carried out by the light 'planes were: A daily speed test over a 70 km. course, a consumption test, and an altitude test. The daily speed test was flown over a 5 km. course, which had to be covered seven times in each direction. The northern turning point of the speed course was on the aerodrome, while the southern turning point was 5 kms. down the coast, and so situated that it took the competing machines across a portion of the Bay of Vauville. From the fact that the course was a straight-line one with sharp turns at each end, it will be realised that the speeds actually established were not, and could not be, any real criterion of the actual speed of the machines, since considerable time must necessarily be lost on such sharp turns.

However, as a method of comparison between various machines this should not be of great consequence, except in so far as personal skill on the part of the pilots would naturally affect the results. In the tests the weight of the pilot must not be less than 75 kgs., or 150 kgs. for pilot and passenger in the case of two-seaters, any balance having to be made up in the form of ballast. The engine size was to some extent governed by the eliminating trials, in which machines had to cover a distance of 50 kms. and at the end of this climb to an altitude of 2,000 metres; the time taken not to exceed two hours, and the petrol consumption must not exceed 8 kgs. for single seaters and 12 kgs. for two-seaters.

In the daily speed tests a prize of 1,000 francs was awarded to the entrant of the machine making the fastest time over the 70 km. course, with a second prize of 500 francs to the machine making the second fastest speed. Prizes totalling

The Glider Experiments

In the glider class a daily prize of 400 francs was offered for the competitor remaining in the air for the longest period, and a similar daily prize for the competitor attaining the greatest height above the starting point.

A first prize of 7,000 francs and a second prize of 3,000 francs were offered for machines which, in the opinion of the judges, were likely to assist in ascertaining such qualities as manoeuvrability, stability or scale effect. For instance, the rules gave as an example of what was meant by this particular section, a machine to which different wings could quickly be fitted so as to enable comparative tests to be made, and to ascertain the full scale lift and drag coefficients of various wing sections.

A prize of 15,000 francs was also offered for the best type of glider suitable for beginners without any experience of flying, and 10,000 francs were offered for dynamic flight as distinct from soaring in ascending currents. Finally, there was a competition for greatest distance covered by gliders in a straight line, which was donated with prizes to the extent of 7,000 francs.

A Visit to Vauville

Towards the end of last week we paid a short visit to Camp Maneyrol, and found that, as regards the light 'planes, the meeting had resolved itself into a competition between a little Caudron monoplane, type C.109, with 40 h.p. Salmson engine, piloted by Vanlaere, and the Demonty-Poncelet cabin machine, piloted by Van Opstal. We were most cordially received by M. Carlier, President of l'Association Francaise Aerienne,

The Demonty-Poncelet limousine: This close-up view shows the engine with exhaust-collector, three-bladed propeller, &c., and the cabin which has accommodation for two, seated side by side. Dual controls are provided, the machine being of the type known as "Conduite Interieure."



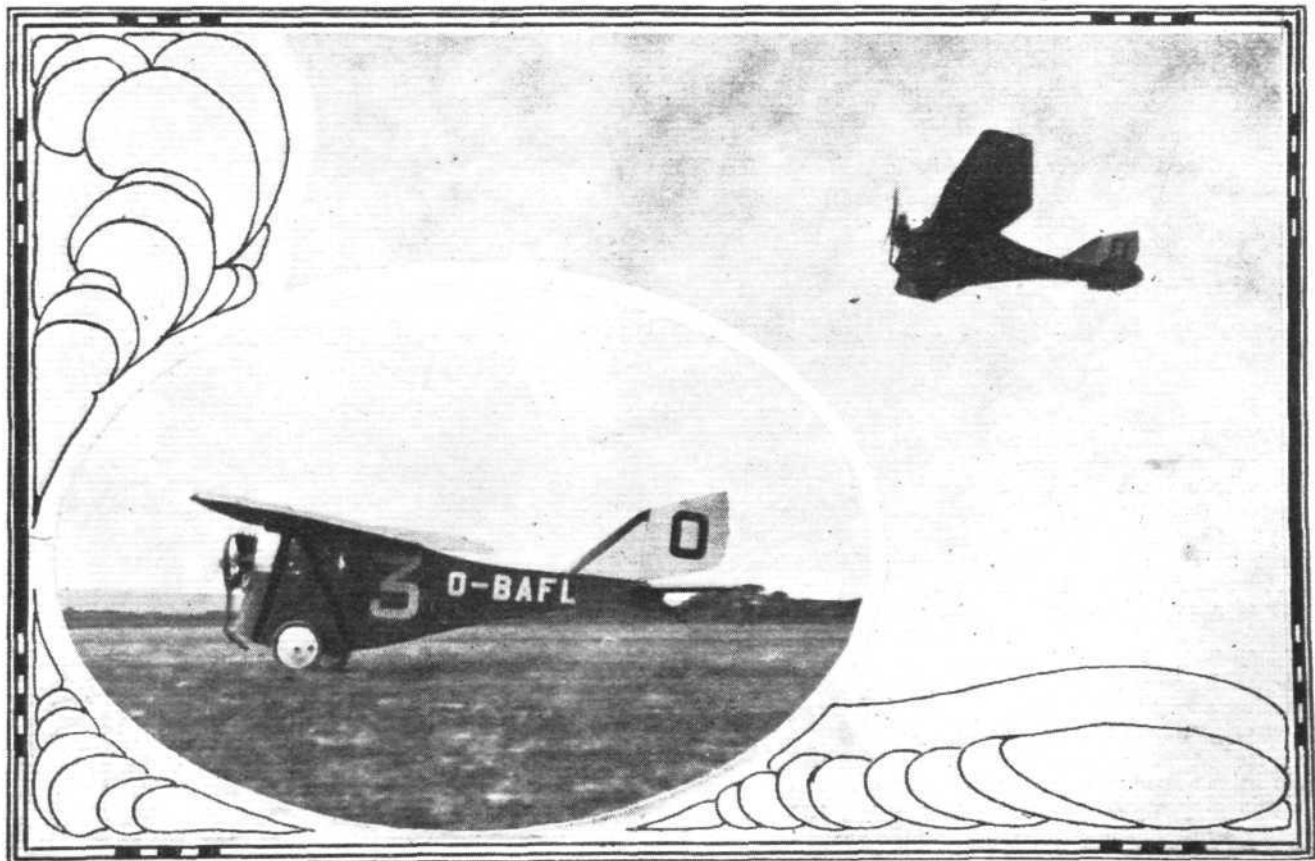
who speaks English fluently, and to whom we are greatly indebted for his very valuable assistance in enabling us to collect data as to the performances already put up before our arrival. In the short space of time at our disposal it would have been almost impossible without M. Carlier's assistance to have obtained an idea of the earlier history of the meeting.

Out of the seventeen light 'planes entered for the meeting, a very considerable number failed to put in an appearance, among which mention may be made of the Panders from Holland, the Jonesco from Roumania, and the Farman and Potez machines from France, as well as several others.

It was, unfortunately, discovered that during the earlier part of the meeting quite a considerable number of machines had been crashed, and consequently it is not possible to give photographs of several interesting machines. Among these, mention may be made of the Cambier-Guldentops biplane, with 60 h.p. Anzani, which had been entered by the

Belgian S.A.B.C.A. firm. While flying near the aerodrome the engine stopped, and the pilot, Van Opstal, had to make a hurried forced landing. As a number of people were directly in his way, he had no alternative but to sideslip his machine down and flatten out violently a few feet above the ground. A crash was inevitable, and the machine was badly damaged, but the pilot escaped with a black eye.

Among the gliders there had also been a considerable number of casualties. First and foremost among these was the Poncelet "Castar," which appeared as a light plane in the 1923 Lympne meeting. It was on this machine that poor Simonet met his death, and during our visit we were able to ascertain the cause of the accident. For some time it had been believed that Simonet either fell asleep or fainted while in the air, and that this was the cause of the accident. Later on, however, a careful examination of the wreckage revealed the fact that an elevator cable had broken, and it was believed that the reason for this was that the cable had



THE WINNER: The Demonty-Poncelet limousine taking off and in flight. Pilot: Van Opstal.

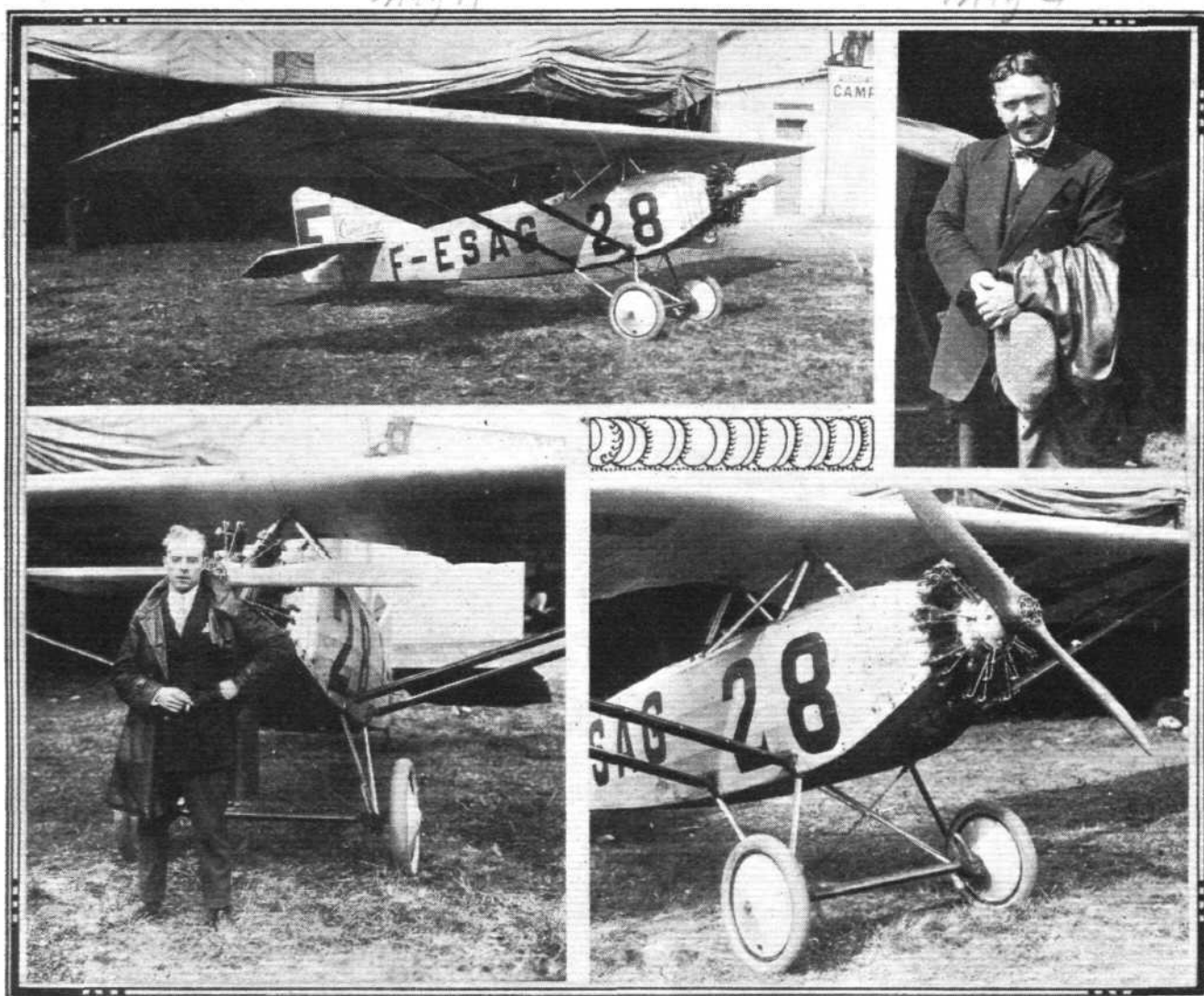
been rubbing against the pulley casing until all the strands were broken or worn through. The machine was seen to descend in an almost vertical dive, which would be accounted for by the breakage of the elevator cable.

Another glider which was deleted was the famous Peyret tandem monoplane flown by the late M. Maneyrol at Itford, but in this case the crash was due to faulty piloting, and not to any defect in the machine itself. M. Peyret has had an extraordinary run of bad luck, and everyone sympathised with him in his latest misfortune. In the crash the pilot broke a leg, but is not believed to be otherwise seriously injured.

During the two days of our stay the weather was very suitable for light 'planes, but less so for the gliders, there being but little wind. The wind was from South-West, and one morning the Abrial monoplane glider "Vautour"

attempts to get the Landes-Bréguet off the ground. This machine has a single central skid, and as soon as the helpers at the wing tips let go the machine heeled over, the wing touched, and the machine cart-wheeled on the ground.

Of the light 'planes, the Caudron monoplane and the Demonty-Poncelet limousine made their daily speed tests over the 70-km. course, and both appeared to fly quite strongly. A notable fact was that the Poncelet, in spite of the large cross-sectional area of the cabin of its fuselage, was as fast as the much smaller Caudron, so that presumably the shape of its fuselage is far less detrimental to efficiency than might be expected. The engine fitted in this machine, by the way, is an old Anzani 45 h.p., with automatic inlet valves, and thus cannot be said to be the last word in efficiency, but, in spite of this fact, the machine flew strongly with two up, and appeared to have an extremely good gliding



THE RUNNER-UP : The Caudron monoplane, type C.109, with 40 h.p. Salmson engine. In the upper right hand corner, M. Talpin, chief designer to the Caudron works, and, in the lower left-hand corner, M. Vanlaere, pilot of the machine.

was brought out and placed in position at the beginning of the steep portion of the slopes. The pilot was M. Auger, who had piloted the machine in the record flight during which it had reached an altitude of 720 metres above the starting point. On this occasion the wind was, as we have said, not very strong, and the flight did not last more than a few minutes. The manner in which the machine got away was little short of astonishing, and certainly the run along the ground could not have been more than 15 ft. The machine then rose well, but, after getting away from the slope, began to lose height. The pilot turned south to attempt getting lift by skirting the slopes, but the rate of ascent of the air currents was insufficient to prevent him from dropping, and after a few turns backwards and forwards a landing had to be made in the swamp at the foot of the slope. In itself the performance was perhaps a very ordinary one, but it did give one an opportunity of realising how extremely well the machine handled.

The only other glider flights witnessed during our stay were short hops by the Nessler, and various unsuccessful

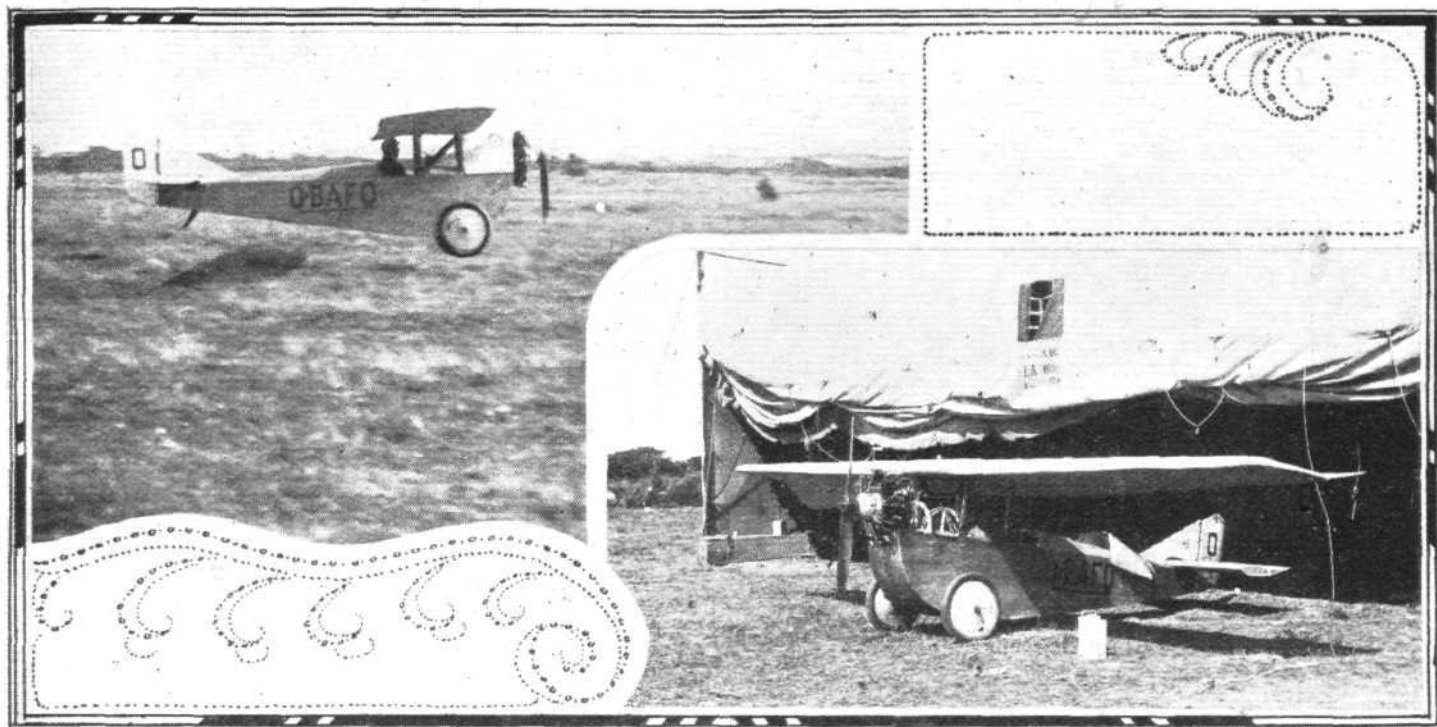
angle; so much so, in fact, that with a westerly wind there was considerable difficulty in landing it before the steep portion of the slope had been reached.

Another light 'plane which covered the speed course during our visit was the little S.H.B.P. fitted with 40 h.p. Salmson engine. This machine is the result of collaboration between the late Victor Simonet and some friends of his, and appeared to be very fast, covering the out and home stretch of the speed course (5 kms. each way) in, roughly, five minutes, which would give a speed of 120 km./h. (75 m.p.h.). As considerable time must necessarily have been lost in cornering, the actual top speed of the machine must be a good deal higher, possibly 85 m.p.h.

The normal routine of Camp Maneyrol appeared to be roughly as follows: Leave Cherbourg on the "autobus" at 7 a.m., and arrive at the camp towards eight. If there was sufficient wind and it was blowing from the right direction, the gliders would be out for the various tests—duration, altitude, or greatest number of laps in one hour on a 1 km. course. The latter event was for a prize offered by a French

newspaper, and consisted in gliders "tacking" backward and forward over a course 1 km. long. At the time of our visit the greatest number of laps covered in this manner was 52 in an hour, accomplished by Commandant Massaux on the Poncelet glider "Vivette," while the second best performance in this test was 36 by Auger on the Abrial "Vau-tour."

were unfortunate enough to be left behind. However, by the kindness of M. Gigaut, a strong supporter of the light plane movement in France, and the donor of prizes at Vauville, we were conveyed to Cherbourg in his Motobloc car, the ride testifying not only to the speed possibilities of the Motobloc, but also to M. Gigaut's skill as a driver. It will suffice if we say that on no other occasion did we cover the



Two views of the S.H.B.P. light monoplane 40 h.p. Salmson engine. This machine was built by M. Simonet and some friends, and was to have been piloted by him. On the right the machine on the ground. The aluminium cowling over the front portion of the fuselage has been removed, and is seen resting on top, just in front of the tail. On the left, the machine starting for a flight, piloted by Van Opstal.

By mutual consent everyone retired at 12.30 for lunch, which could either be obtained in a refreshment tent on the aerodrome, or in the inn of the neighbouring village of Biville. At 2.30 p.m. the light planes commenced their daily speed test over the 70 km. course, and one day during our visit a consumption test was also carried out over a dis-

distance between Cherbourg and Vauville in less than treble the time taken by M. Gigaut!

Throughout our all-too-short visit to Vauville we were received with the greatest kindness and hospitality, for which it is desired here to offer best thanks. Everyone was anxious to assist in any way possible, and altogether all at Vauville



The Mulot Monoplane "Labor," with 18 h.p. Vaslin engine.

tance of 140 kms. In the evening, if one was lucky, one might secure a seat on the "autobus," but this was not always to be accomplished without difficulty, and on one occasion we

appeared to be a very happy family, the general atmosphere of the place being very similar to that obtaining at Itford in 1922.

THE MACHINES

It is not possible in the space at our disposal, nor would it be of any interest, to give detailed descriptions of all the machines taking part in the Vauville meeting, but in the following notes it is proposed to outline briefly the main features

of such machines as have done well in the various tests, or which present aerodynamic or structural features of special interest.

The Demonty-Poncelet limousine is a high-wing monoplane

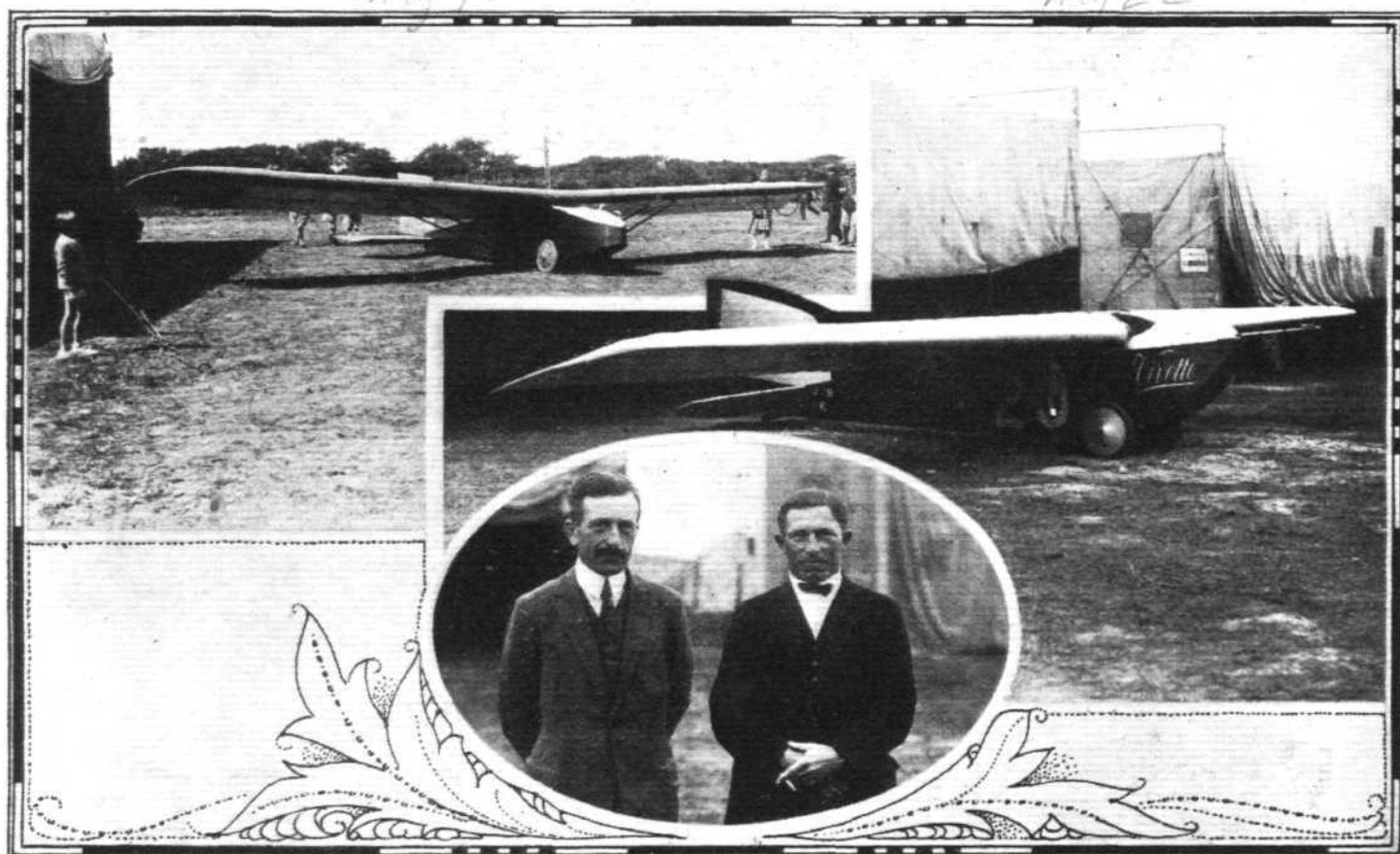
of very unorthodox design. It was designed by M. Mathieu Demonty, Technical Director of the well-known Belgian firm, S.A.B.C.A., and was built by M. Poncelet. In general arrangement the machine is characterised by a monoplane wing, consisting of a centre-section built integral with the fuselage, and of two end pieces attached thereto by quick release devices. Each wing-half is braced to the lower long-erons of the fuselage by long struts, and owing to the great depth of fuselage the angle of the struts is extremely good.

The machine has been designed for touring purposes, and the two seats are arranged side by side inside the cabin, the occupants being able to look forward through windows and sideways through circular openings in the cabin walls, while a window in the floor of the fuselage gives a view downwards. Aft of the cabin is a large net rack for luggage, of which a very considerable amount can be carried, and a tool box is built into the rear portion of the fuselage, ahead of the fin, so that it will be seen that the machine is perfectly equipped for long tours, and is to a large extent self-contained. Should transport along roads become necessary, the wings are so

duralumin tubes. The C.109 is fitted with one of the new nine-cylinder 40 h.p. Salmson engines, which appears to run remarkably smoothly, as might be expected from nine cylinders developing less than 5 h.p. each. The empty weight of the machine is 325 kg. (715 lb.), and with pilot, passenger and three hours' fuel the loaded weight is 530 kg. (1,165 lb.).

The little monoplane entered by the S.A.B.C.A. Co. did no flying during our visit to Vauville, and we are not, therefore, able to express an opinion as to its flying qualities. It is a very small parasol monoplane designed by M. Mulot, and is fitted with a four-cylinder horizontally opposed Vasin engine rated at 18 h.p. The machine is shown in a photograph, from which the general appearance may be gathered.

A small high-wing monoplane single-seater was entered by the late M. Simonet, and is also shown in a photograph. Known as the S.H.B.P., this machine was produced by Simonet in collaboration with some friends, and is fitted with a 40 h.p. Salmson engine of the same type as that fitted in the Caudron monoplane. The fuselage is ply-wood covered, and is characterised by a pronounced curve in



TWO "RECORDMEN": On the left, the Abrial "Vautour" monoplane glider which established a new "record" by reaching a height of 720 metres above its starting point, and, on the right, the world's duration "record" holder, the Poncelet "Vivette," which has remained aloft for 10 hours 19 minutes 43 seconds. The inset shows M. Alfred Auger, left, pilot of the "Vautour," and Commandant Massaux, pilot of the "Vivette."

designed that they can readily be folded flat along the sides of the fuselage, the rear spar being provided with universal joints.

The fuselage is a flat-sided, flat-bottomed structure, covered with three-ply mahogany, and the shape is unusual in that reverse curvatures are found aft of the wing. That this peculiar shape does not adversely affect the efficiency seems to be indicated by the fact that, with a 45 h.p. Anzani, the top speed is in the neighbourhood of 125 km./h. (78 m.p.h.).

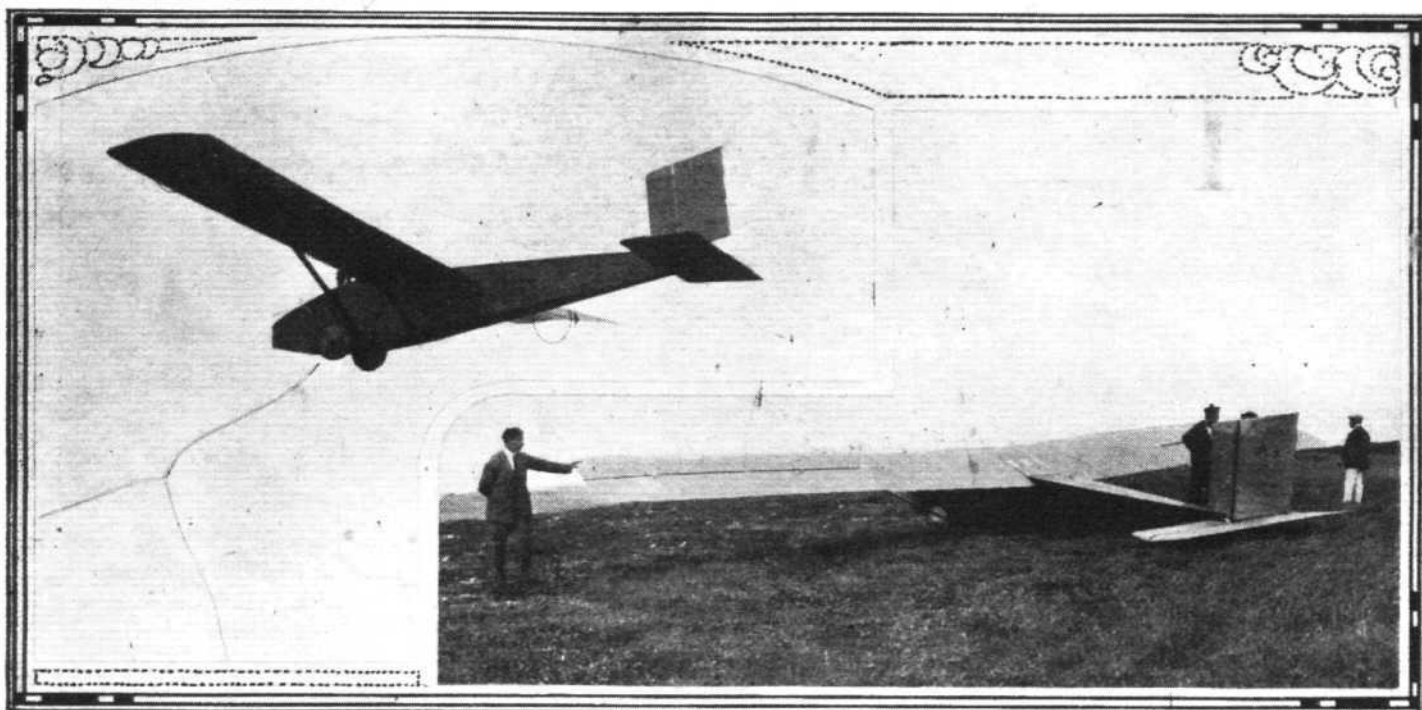
The machine obtaining second place in the speed aggregate is a Caudron parasol monoplane, type C.109, with 40 h.p. Salmson nine-cylinder radial air-cooled engine. It may be of interest to mention that this machine was flown from Paris to Vauville by Vanlaere in 2 hours 35 minutes. The parasol monoplane wing is of fairly thick section, and is without dihedral. At the centre it is supported from the fuselage by duralumin struts, and braced laterally by hollow wood struts to the bottom of the fuselage. The angle of these struts is somewhat flat, and they appear to be attached unusually far out towards the wing tips. The under-carriage is of somewhat unusual design in that the front "legs" are steel tubes, while the rear "legs" are in the form of

front, where it might be imagined the flat bottom would give rise to a not inconsiderable resistance. The machine, however, flew quite strongly, although it naturally took a long run to get off, and might be difficult to take off the Vauville aerodrome in anything but westerly winds. With the high wing loading, the landing speed is necessarily somewhat high, we understand about 55 m.p.h., so that the speed range is not very great, the top speed being probably about 85 m.p.h.

The Gliders

Among the gliders taking part in the Vauville meeting, first place should undoubtedly be given to the Abrial type A.2 ("Vautour"), which was designed by M. G. Abrial, and built by M. L. Peyret. We gathered that a scale model of this glider was first tested in the wind tunnel at St. Cyr. When the actual glider was first tested at Vauville it was found to be absolutely "right" in every respect, and as it was elaborately fitted up with recording instruments of all sorts, it was possible to ascertain the scale effect between the wind tunnel model and the full-size glider.

In general arrangement, as shown in the accompanying scale drawings, the machine is somewhat after the famous



OFF FOR A GLIDE: The Abrial "Vautour" ready to start, and, inset, in flight.

German "Vampyr" type, but with a more rounded nose and with strut-braced wings. The wing section used is somewhat similar to the Gottingen sections, although the mean camber curve is stated to be different from those of the Gottingen sections.

The construction is one of the prettiest pieces of work which we have ever seen, and is a credit to M. Peyret. It was on this glider that M. Auger reached an altitude of 720 m. (2,360 ft.) above his starting point, and glides of 4½ hours' duration were also made on it.

The glider on which Commandant Massaux remained aloft for 10 hrs. 19 mins. 43½ secs. was the Poncelet "Vivette," which took part as a light 'plane in the 1923 Lympe meeting. The glider is no doubt very efficient, but the pilot's cockpit appeared extremely cramped, and it is something of a mystery how Massaux managed to "stick it" for nearly 10½ hours.

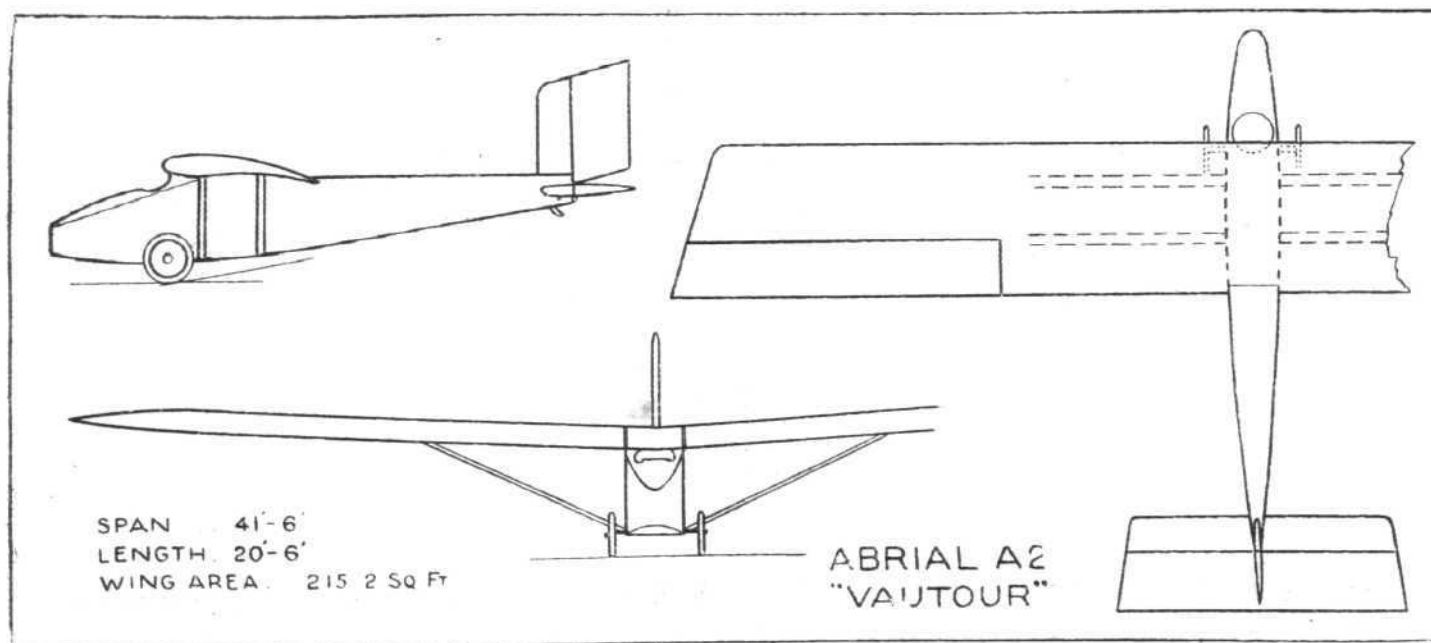
The Nessler monoplane glider, shown in one of our photographs, was a somewhat crude affair, and was mainly interesting because of the fact that it was covered with oiled silk.

A glider of most unusual design was the Landes-Bréguet, also shown in one of our photographs. This machine has arched wings, somewhat like those of a gull, and in model

form a machine of this design has won a number of prizes in competitions in which the model gliders were launched from a captive balloon. In the full-size glider, however, difficulty was experienced with the wings, which were constructed entirely of bamboo, and were in consequence extremely flexible; so much so, that it seems rather doubtful if the machine would be safe to take up, at any rate in a gusty wind. The fuselage, which appeared to be so short that the rudder control could not possibly be effective, was built up on four duralumin longerons, with three-ply formers, and stringers of split bamboo.

The biplane glider entered by M. Robert Ferber was of unusual design, in that the ply-wood covered fuselage was shaped like a very thick wing section, while the gap between the planes was unusually large. The glider must have been very lightly loaded, but does not appear to have put up any startling performance.

The Bouriau-Chapautau monoplane glider was somewhat reminiscent of a Dewoitine, but had a fuselage of greater width than depth. The wing section was a bi-convex one, with the steepest camber on the lower surface, which gave the wing the appearance of having been put on "upside down."



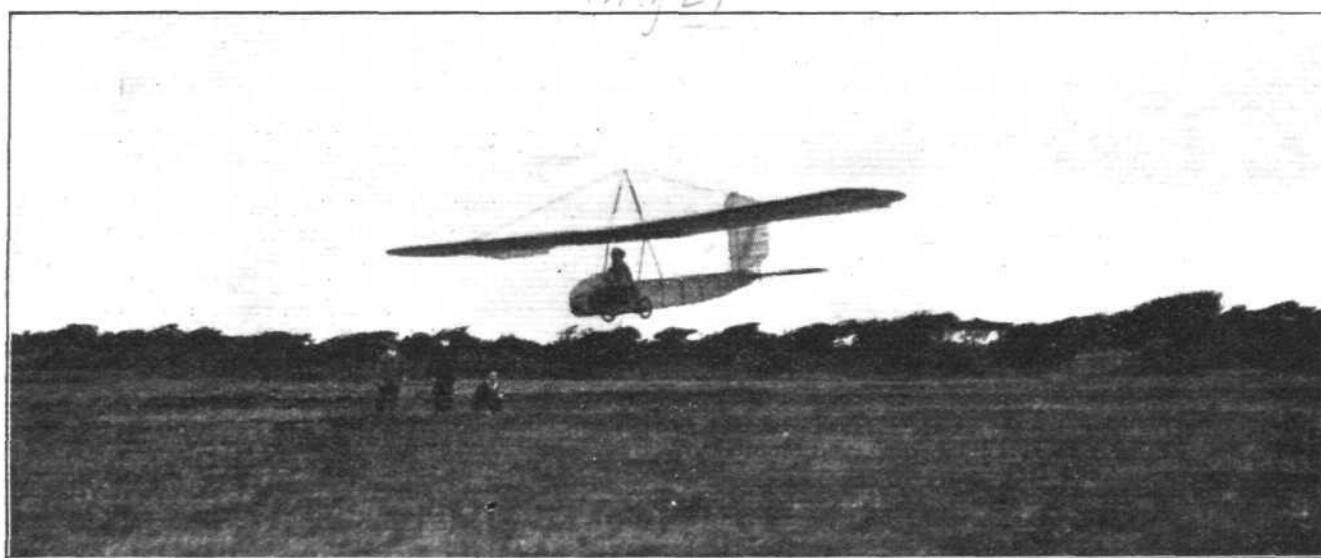
The Abrial Glider "Vautour." General Arrangement Drawings, to Scale.

neg 18



The Landes-Bréguet Monoplane Glider has wings similar to those of a gull, and should be very efficient aerodynamically, but the wing construction was too flexible, and no prolonged flights were made.

neg 21



The Nessler Monoplane Glider making a short trial hop.

Some Results Obtained at Vauville

In the light 'plane class first place was secured by Van Opstal on the Demonty-Poncelet limousine, with Vanlaere on the Caudron C.109, second. Van Opstal also won the cup presented by the *Petit Parisien* for greatest speed over 3 km. (111 km./h.). Among the gliders, first prize for duration went to Commandant Massaux for his glide of 10 h. 19 m. 43 $\frac{1}{2}$ s., Lieut. Demblon coming second, with 10 h. 0 m., 41 $\frac{1}{2}$ s. The prize for greatest altitude reached above starting point was won by M. Auger, who, on the Abrial "Vautour" attained a height of 720 metres (2,360 ft.). Commandant Massaux won first prize for the greatest number of "laps"

of a 1 km. course, having made no less than 52 laps in 60 minutes. Auger, on the Abrial, was second with 36 laps.

The Vauville meeting was to have concluded with a race from Vauville to Paris on August 11, but there were but two starters in this event, Vanlaere on the Caudron and Van Opstal on the Demonty-Poncelet. A start was made at 10 a.m., the two machines being escorted by Becheler on the Caudron school machine, but both competitors came down with propeller trouble, the intense rain having damaged their propellers. Becheler did not learn of Vanlaere's troubles until he arrived at le Bourget.

Sir Samuel Hoare Travels by Supermarine

ON August 11 the Secretary of State for Air, Sir Samuel Hoare, made a flight in one of the new Supermarine "Southampton" flying-boats illustrated in *FLIGHT* last week. Sir Samuel was accompanied by Air Marshal Sir John Salmond and Air Vice-Marshal Sir Geoffrey Salmond, the flight starting from Cromer and a call being made at Grimsby. The machine is fitted with Napier aero engines, and the Air Minister expressed himself delighted with the trip and with the machine, which has now been put into quantity production.

The Royal Air Force to Participate in New Wembley Tattoo

COMMENCING ON August 24, and continuing for five weeks, the new United Services display in the Stadium is expected to eclipse all the preceding "Tattoos." The various Air

Force and defence units will take a prominent part, about 400 men being engaged. The bands attached to the Royal Air Force will participate in the processional marching and counter-marching, which will be illuminated by powerful searchlights operated by the Territorial troops of London's air defences. Various spectacular evolutions will be performed in the air under coloured lights; the introduction of the latter will add immensely to what is at once a weird and beautiful display. Historical grouping, showing the different types of troops in the uniforms of the periods from Agincourt to the Great War, will conclude the performance each evening.

The "Tokyo-London Flight"

THE two Japanese aeroplanes which are attempting to fly to London via Moscow, left Harbin (Manchuria) at 5.30 a.m. on August 4, and arrived at Chita (Siberia) after a non-stop journey at 1 p.m. This is the longest "leg" of the flight, being a distance of some 750 miles.

AT FLOWER DOWN

Inspection of the Electrical and Wireless School by the Chief of the Air Staff

By MAJOR F. A. DE V. ROBERTSON, V.D.

Nor long ago, when the Chief of the Air Staff, Air Chief Marshal Sir Hugh Trenchard, G.C.B., D.S.O., inspected a school where aircraft apprentices are trained, he felt impelled to express bitter disappointment at the number of failures to pass out in the final examination, and naturally there was general perturbation. As we wended our way on August 7 from Winchester to Flower Down, to witness an inspection of the Electrical and Wireless School, and a prize-giving by the C.A.S., we rather wondered what the day would bring forth.

Situated on the downs above Winchester, the station where the school is at present located is a bright and breezy place. It is probably somewhat dreary in winter, but on a sunny summer day the fresh air of the downs was a delightful contrast to the relaxing atmosphere of the old Wessex capital which lies below. On driving through the gates we noticed the solid appearance of the station buildings, which are old war-time huts "reconditioned." On the parade ground, a sloping and uneven stretch of grass, the officers and airmen of the station were drawn up in line. I must apologise if I use any incorrect terms in describing the drill. My own knowledge of infantry drill is growing rusty, and, moreover, R.A.F. drill is a compound of naval and military drill, with a few original items and terms thrown in. For instance, the R.A.F. "shoulder arms" as the line regiments did some 25 years ago (do not rifle regiments do it still?), with the second finger of the right hand through the trigger guard, but they call it "Advance Arms." When units cannot spend a great deal of time on the parade ground, it is easier to make a good show in this way than by sloping arms. But surely it should be possible, without depriving Mr. Churchill of his remaining locks, to provide blue webbing equipment. The khaki webbing on the blue uniform does not look well. And though I should hesitate to suggest yet one more new uniform for the R.A.F., why were riding breeches ever adopted? For climbing in and out of an aeroplane, knee joints should not be constricted—sometimes one needs to get out very quickly, if one can—and knickerbockers, say, plus twos, would surely have been the ideal uniform.

After the C.A.S. and his staff, accompanied by Group Captain R. Peel Ross, D.S.O., A.F.C., Commandant of the School, had walked along the lines, the parade, which was drawn up in squadrons, marched past the saluting point. The marching was quite as good as could be expected on uneven grass, and the flights of boys acquitted themselves quite as well as the flights of aircraftmen. The station band played excellently. So they ought to do. They understand all about tuning in. Altogether, it was a good parade. The standard of drill was high enough to show that the station appreciates the undoubted advantages of smartness and discipline, and not high enough to suggest neglect of

technical duties. In a flying station one would have to be content with a lower standard.

After the parade was dismissed the C.A.S. very thoroughly inspected the quarters and workshops, and questioned a number of the airmen and boys. The answers were given composedly; evidently the R.A.F. does not suffer much from inspectionitis. For wireless training 10 "out-stations" and a central station have been erected in the compound, and doubtless Sir Hugh knew as well as anyone else that his progress was being inaudibly reported from point to point.

After lunch everyone, including friends and relations, assembled in the gymnasium for the prize-giving. Group Captain Peel Ross read the report. Our minds were relieved. The whole course had passed out as aircraftmen. Four were being retained as worthy of a course of higher instruction. One, Apprentice L. P. Moore, a fine lad of a particularly good stamp, had been given a cadetship at Cranwell, and will in due course receive his commission. All the new aircraftmen had volunteered to become airmen-pilots. In athletics the school had done very well, physique had improved, and the only epidemics had been mumps and German measles, and a slight skin disease brought on by eating home-grown vegetables. At this I patted myself on the back for having resisted all attempts to convert my back yard from the culture of nasturtiums to that of cabbages. Flower Down, if there is anything in a name, should certainly stick to the same policy.

Sir Hugh Trenchard then presented the prizes, copies of Raleigh's "War in the Air," and made his address. He said that he looked on Flower Down as the backbone of the Air Force. On wireless depended the development of the R.A.F. to be an efficient and economical defence of the country and the Empire. Without wireless we could never use the air to the fullest extent. He would call the last age a petrol age, but the coming age he would call an electrical age. He watched the various courses at Flower Down, "boys as they come, men as they leave," and held them second to none in the world. On the parade he had seen what he had expected to see. "If you have a lot of brains you don't need so much drill, and get the same result." To the new leading aircraftmen he said, "Don't think you know everything. Continue studying when in the squadrons." The 1st aircraftmen and 2nd aircraftmen he advised to strive for higher classifications. All had volunteered as pilots. "You are the type we want," but to become a pilot was no excuse for neglecting their trade. In the Air Force everyone had to do two things, though it was the fashion to say a man could only do one. He looked forward to the time when it would be impossible for aircraft to lose their way unless someone made a wrong connection. Finally, commenting on the health returns, Sir Hugh remarked, "I dislike sick people. Illness is a waste of time. Keep fit."

Larry Carter making good Progress

His many friends will be glad to learn that Capt. L. Carter, who is in hospital as a result of the injuries he received when, some time ago, he crashed at Cranwell in one of the Gloucestershire Co.'s racing aeroplanes, is making excellent progress, and is now able to take solid food. The injuries to his head and leg will, of course, take time to heal, and in the meantime Larry Carter will doubtless wish to hear from friends how the great aviation world outside is going on without him. As he is now permitted to receive correspondence, letters should be addressed to him at the R.A.F. Hospital, Cranwell, Lincs.

Sir Henry Fowler's New Post

In succession to Mr. George Hughes, C.B.E., who has now retired, Sir Henry Fowler has been appointed chief mechanical engineer of the London, Midland & Scottish railway group. Sir Henry Fowler served successively during the war as Director of Production to the Ministry of Munitions, Superintendent of the Royal Aircraft Factory at Farnborough and Assistant Director-General of Aircraft Production to the Ministry of Munitions. From 1912 to 1914 he was President of the Institution of Locomotive Engineers, and of the Institution of Automobile Engineers from 1920-21.

He has been deputy chief mechanical engineer to the L.M.S. since the grouping of the railways.

The New World's Duration Record

Of the many world's records recognised by the *Fédération Aéronautique Internationale*, two in particular are regarded as of great importance: the speed record and the duration record. The former because it implies a machine of very efficient aerodynamic design, and the latter on account of the ability to carry large loads and the reliability of the engine which is required. France now holds both records, and by such a margin that they will be extremely difficult to beat. On August 9, MM. Drouhin and Landry landed, after having flown continuously for 45 hrs. 11 mins. 59 secs. over the Chartres-Etampes-Toussus-Chartres circuit. The machine used was a Farman biplane of the famous "Goliath" type, but fitted, instead of the two engines on the wings, with a single Farman engine of 500 h.p., mounted in the nose of the fuselage. The achievement is one of which all concerned may well be proud, and speaks well for the reliability of the Farman engine, no less than of the grit and determination of the two pilots. The record far exceeds any hitherto established, whether with or without re-fuelling during flight. The distance covered was 4,400 kms. (2,760 miles), which is also a record for a circular course.

ON THE PREVENTION OF ACCIDENTAL STALLING

By M. L. BRAMSON, A.C.G.I., M.I.Ae.E.

THE problem of abolishing the type of accident which is caused or aggravated by involuntary stalling may be stated as follows: to devise means whereby the stalling of an aeroplane is rendered impossible, otherwise than as an act of volition on the part of the pilot, subject to the condition that the complete control by the pilot of his machine must in no circumstances be impaired.

Let us examine this problem in principle in order to discover, if possible, a logical solution. In the first place it is clear that if we can convey a warning to the pilot which—

- (1) cannot fail to reach him,
- (2) cannot be misunderstood, and
- (3) reaches him at the right moment;

then we can solve the problem.

Kind of Warning.—In considering the kind of warning required to comply with (1) and (2) we must remember we are dealing with the human element. It is a matter of physiology. Man has five senses, and if you want to convey a message to him you must appeal to one or more of these. Two of them, taste and smell, we must rule out for obvious reasons. We are, therefore, left with sight, hearing, and touch.

Sight and Hearing.—Taking these in the order mentioned, let us find out whether a visual warning will do. Now, in practice, it is impossible to produce a visual signal covering the pilot's field of vision in all directions. If, therefore, he happens to be looking in some direction other than that from which the signal is coming, it will not reach him. Consequently, no visual warning can comply with condition (1). This is borne out by experience. The presence on the dashboard of a perfectly reliable Air Speed Indicator has not, unfortunately, proved a sufficient safeguard against involuntary stalls.

Likewise, on account of the noise on board an aeroplane, a sound signal might fail to reach the pilot.

Sense of Touch.—And so, by a process of elimination, we arrive at the conclusion that if the warning is to be infallible, it *must* be conveyed to the pilot through his sense of touch. Now there is one part of the body of the pilot, and one only, which is in constant sensitive touch with the doings of his machine, namely, the hand which holds the control column. Moreover, we have stipulated that the warning which should make him move the control column forward must be incapable of being misunderstood.

It is, therefore, logical to transmit the signal *to the point* where action is to be taken, *and in the sense* (that is forward) in which action is to be taken. In other words, a signal consisting of a force suddenly applied to the control column in a forward direction is the one type of signal which can neither fail to reach the pilot nor be misunderstood by him.

In practice such a force may be derived from mechanical, hydraulic, pneumatic or electro-magnetic sources, and limited to such a magnitude that the pilot can overcome it if he so desires.

The Right Moment.—There remains the question of ensuring that the warning is given at the right moment. In a recent article on "Accidental Stalling," the writer pointed out that the "Stalling Incidence" is a constant for any given machine, whereas the stalling speed varies with the static and dynamic loading. It follows that the application and discontinuance of the warning force must depend upon the angle of incidence.

We thus arrive at the following conclusion: Involuntary stalling may be eliminated by any device which informs the pilot in the manner described whenever the angle of incidence reaches a pre-determined value near, but below the stalling incidence.

THE SAVAGE-BRAMSON ANTI-STALL GEAR

A New Device with Great Possibilities

It is by now generally admitted that a very large proportion of aeroplane accidents are due to nose dives or spins following upon accidental stalls close to the ground. It is also admitted that a skilled pilot will practically never stall his machine accidentally near the ground unless he happens to be pre-occupied, such as, for instance, with looking for a suitable field in which to make a forced landing. If, therefore, means could be devised for reminding the pilot that he was approaching stalling point, many crashes would in all probability be avoided. In the preceding article, Mr. Bramson has outlined the considerations which led him to adopt the particular anti-stall gear, of which he is the inventor, and which is described below. Mr. Bramson's argument is so logical and convincing that we need not elaborate it here beyond stating that it appears to be an incontrovertible fact that a system by which the "reminder" to the pilot reaches him through the joy-stick, in other words, through the one spot at which he is always, under all possible conditions, in close touch with his machine, must necessarily be preferable to any form of aural or visual system. To this advantage must, of course, be added the fact that in the Savage-Bramson anti-stall gear one has not only a "reminder" to the pilot, but also a mechanism which moves the controls in the appropriate manner.

Mechanism of the Gear

The actual mechanism of the gear itself is very simple, and consists essentially of a cylinder and piston with rigid connecting rod attached to the joy-stick, and a double-acting pneumatic relay mechanism, in principle similar to that employed in organs, etc., while a small release valve, operated by a vane, completes the equipment. One of our sketches shows the apparatus installed in the machine, and the sectional drawings show the details of the mechanism.

Normally, the pneumatic relay, a section of which is shown in the upper right-hand corner of the sectional drawings, is in the "up" position, kept there by the small adjustable leak which admits air under pressure from a reservoir mounted in the fuselage to the underside of the flexible diaphragm. In this sectional view the upper tube communicates with the reservoir, while the lower tube communicates, *via* tubes inside the wing of the aeroplane, with the vane-operated release valve. The latter is mounted on one of the interplane struts, and it will be seen that not only can its relative incidence be altered,

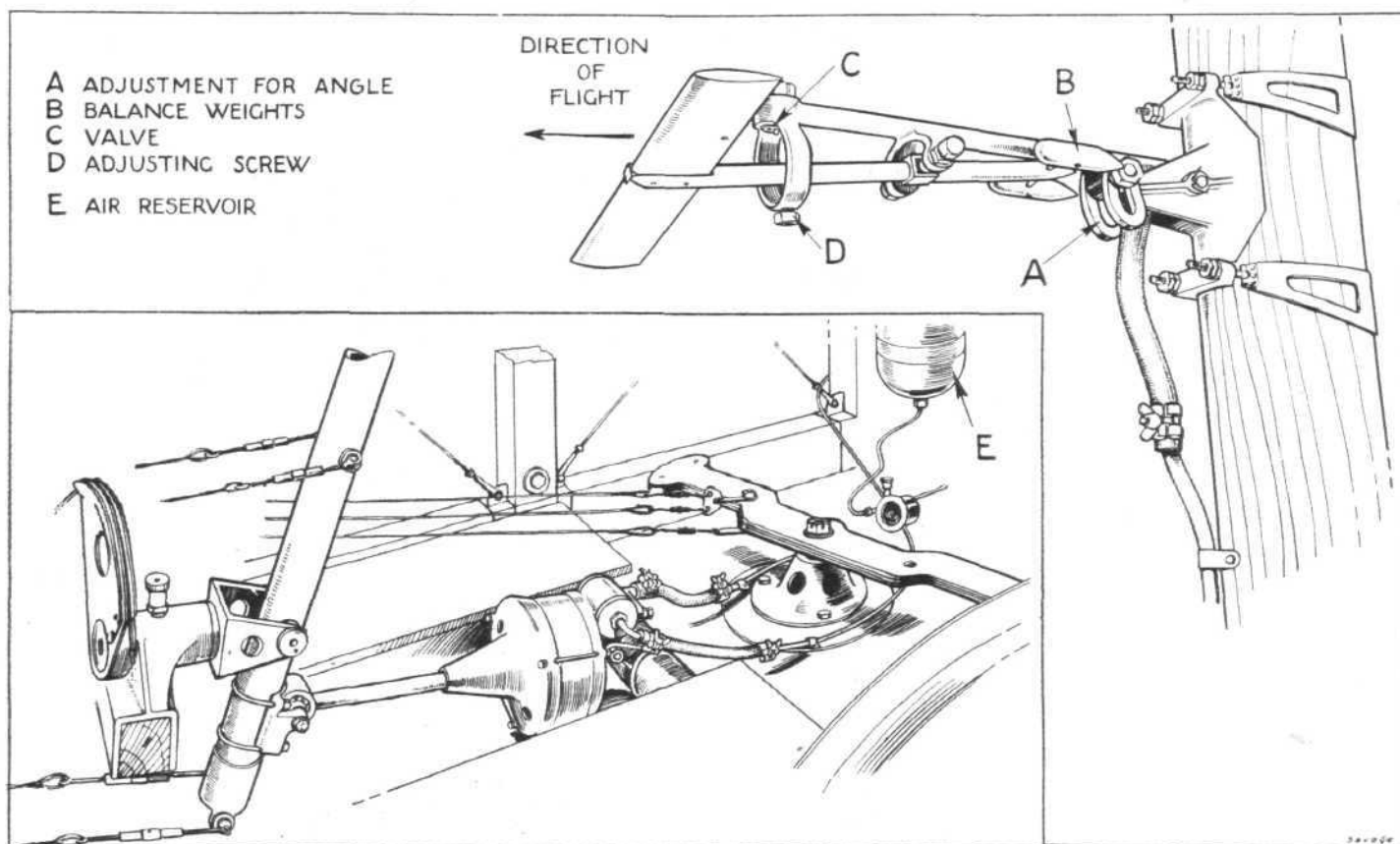
but also the number of degrees through which the vane moves before the release valve is opened, so that very fine adjustment is possible. The vane is set to operate at an angle of incidence slightly below the stalling angle, and with the adjustment provided it is possible to vary within quite wide limits the number of degrees before stalling at which the mechanism comes into operation.

When the machine approaches the stalling angle, or rather the angle at which the relay is set to operate, the wind strikes the lower surface of the vane, which consequently lifts and opens the release valve. The pressure below the flexible diaphragm then drops to atmospheric and the pneumatic relay moves into the "down" position (in which it is shown in the sectional drawings). The pressure from the reservoir then reaches the cylinder and pushes the piston back, the connecting rod communicating to the joy-stick a sharp blow which pushes the stick forward. By suitably choosing the pressure in the reservoir, the size of piston, and the distance below the joy-stick pivot at which the piston is attached, any desired pressure can be exerted on the joy-stick. In practice this pressure is so adjusted that the pilot can overcome it should he so desire, but the sharp blow is quite unmistakable, and cannot possibly pass unnoticed by the pilot.

With the control stick forward the machine presently reaches the angle at which the vane again moves down and closes the release valve. When the pressure on the underside of the diaphragm moves the relay valve into the "up" position, the cylinder once more communicates with the atmosphere.

We recently had an opportunity of seeing Mr. Bramson flying one of Major Savage's S.E. 5's at Hendon, and carrying out various evolutions, and in no instance did the gear fail to operate. Being based upon angle of incidence, and not upon air speed, the gear acts correctly irrespective of loading, and so sensitive has it been found that the pilot can detect a difference according to whether his tanks are full or half empty.

The Savage-Bramson anti-stall gear, which is so simple that there is nothing to go out of order, while in any case, if something did fail, the pilot would be no worse off than he would be without the gear, seems to us to promise to go a very long way towards reducing crashes due to stalling near the ground, and as the weight of the present model is only about 5 lbs., it can be mounted without serious addition of weight on even



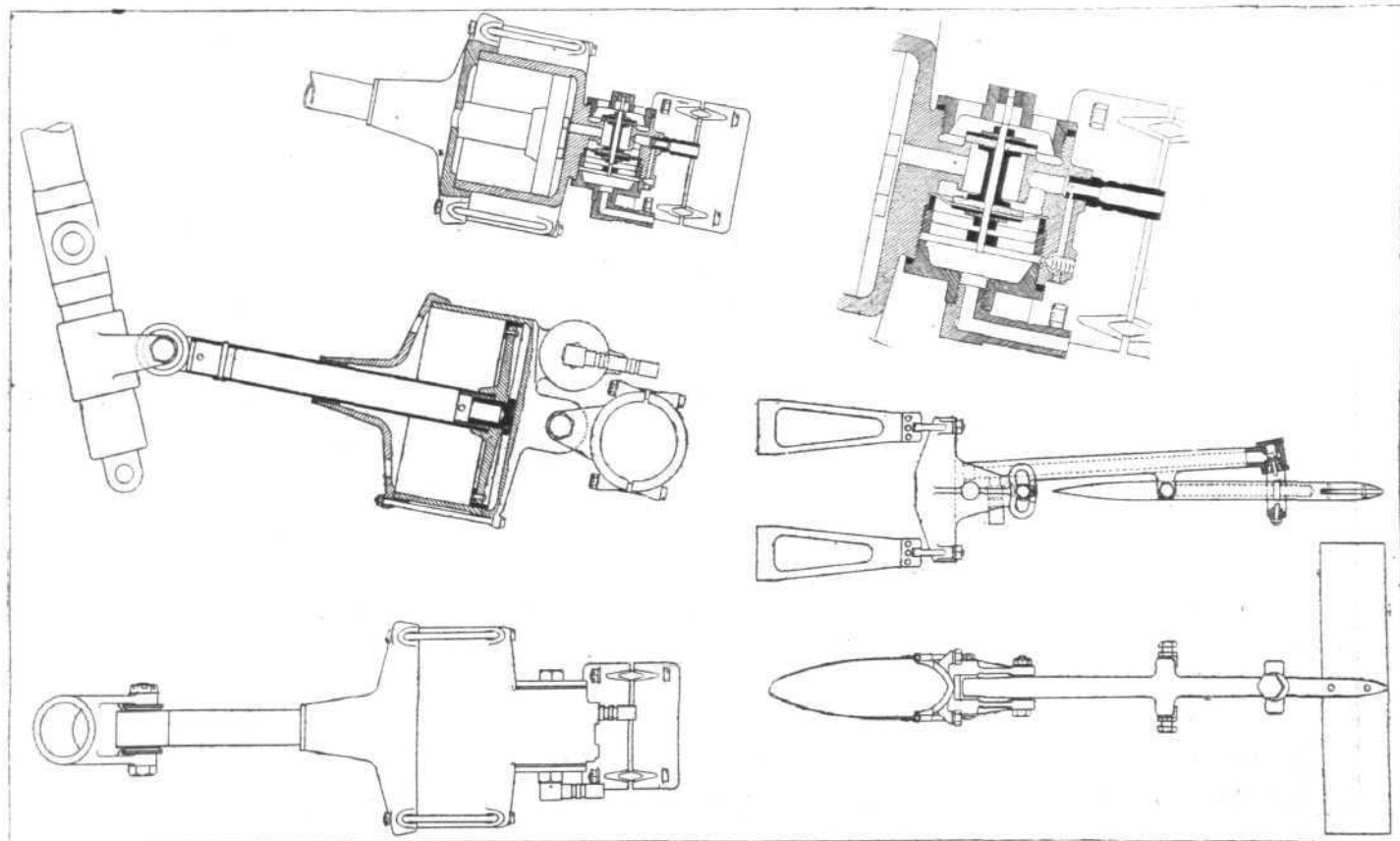
THE SAVAGE-BRAMSON ANTI-STALL GEAR: Sketches showing mounting of the apparatus in the machine, and of the vane on an inter-plane strut.

a light 'plane. It seems probable that in the future two or three different sizes will be standardised, one for light 'planes, one for medium machines, and one for very heavy commercial machines and bombers.

Major Savage and Mr. Bramson are to be congratulated on an extremely clever invention, which may well be found to have a very considerable influence on the future of aviation. The anti-stall gear has been patented in all countries, and

Major Savage is at present in the United States with a view to making arrangements for the manufacture of the gear in America.

The Savage-Bramson anti-stall gear will be marketed by the British Instrument Company, whose offices are at the London Aerodrome, Hendon, N.W., from whom further particulars may be obtained, and with whom arrangements can be made for demonstrations of the device.



THE SAVAGE-BRAMSON ANTI-STALL GEAR: Sectional views of the mechanism. Above is a section of the working cylinder and pneumatic relay valve, the latter being shown in the larger view in the upper right-hand corner. In the lower right-hand corner are elevation and plan views of the vane-operated valve release, which is based upon changes in the angle of incidence.

Personals

Married

BERNARD G. POOL, R.A.F., was married on August 8, at St. Mark's Church, Gillingham, to INES HARKER, elder daughter of Mr. and Mrs. Edward Harker, British Consulate, Valencia, Spain.

To be Married

An engagement is announced between Mr. ERIC HUGH CLARKE, late R.A.F., son of Mr. and Mrs. Hugh Clarke, of Hendon, Savanna-la-Mar, Jamaica, and AILEEN MARGARET, daughter of Dr. E. F. CRABTREE, of Ashurst Lodge, Worthing.

The marriage of Flight-Lieut. CYRIL N. ELLEN, D.F.C., R.A.F., son of the late Mr. William Ellen, of Seaham Harbour, and Mrs. Ellen, and GLADYS LILY, eldest daughter of Mr. and Mrs. GARDNER, of Highgate, will take place on Saturday, October 3, at 2 p.m., at St. James's, Muswell Hill.

A marriage has been arranged, and will take place in Hong Kong in November, between MICHAEL H. TURNER (late Capt., R.A.F.), son of the late Sir George Turner, M.B., and Lady Turner, to DAISY MAINWARING FAIR, only daughter of CANON LOCKETT FORD, of St. Patrick's Cathedral, Dublin, and sister of the Rev. S. Ford, Vicar of All Souls', South Hampstead.

An engagement is announced between Flight-Lieut. FREDERICK ROBERT WYNNE, M.B.E., R.A.F., eldest son of Dr. Frederick Edward Wynne, M.B., D.P.H., and Mrs. Wynne, of 327, Fulwood-road, Sheffield, and KATHLEEN ANNE POLE, eldest daughter of Lieutenant-Colonel and Mrs. Reginald Pole Stuart, of 29, Westbourne Gardens, Folkestone.

R.A.F. Flying Accident

THE Air Ministry regrets to announce that as a result of an accident at Hinaidi, Iraq, to a D.H.9A. of No. 55 Squadron, Hinaidi, on August 5, 1925, No. 355635 Sergeant John Reginald Gaze, the pilot of the aircraft, and No. 353435 L.A.C. Francis Young were killed.

Rating of the Naval Air Arm

THE Admiralty has issued a notification that a limited number of volunteers is required from the wireless telegraphy branch for duty as W/T. operators and aerial gunners in aircraft of the Fleet Air Arm. Accepted candidates will be required to undergo a course of training in aircraft W/T. sets and in aerial gunnery. Extra pay will be allowed to selected ratings at 1s. a day during the preliminary training, and thereafter 2s. a day continuously whilst detailed for the above duties.

Petters, Ltd., and Aviation

At the fifteenth annual general meeting of Petters, Ltd., which was held at Yeovil, on July 23, the Chairman, Sir E. W. Petter, in moving the adoption of the report and accounts, said in referring to the aviation section of the company (Westlands), that they maintained a highly-skilled technical and production staff, and he thought they could claim that they kept themselves as regards capacity for production in the forefront of the industry. The great difficulty they had

The marriage arranged between Flight-Lieut. J. W. YOUNG, M.B.E., R.A.F., younger son of James Young, Esq., Princes Street, Thurso, Scotland, and OLIVE, only child of Mr. and Mrs. A. R. CATTELL, Coningsby House, Hemingford Abbots, will take place at St. Columba's (Church of Scotland), Pont Street, S.W., on August 29, at 2.30 p.m.

Death

It is with regret we note the death, at the age of 23, of Mr. GEOFFREY C. BRIGHT, only son of Sir Charles and Lady Bright, and grandson of Sir Charles Tilston Bright, M.P. Geoffrey Bright gained distinction both at Eton and Oxford, and a very promising career has thus been cut short. His father, Sir Charles Bright, it will be remembered, has been an invaluable help in vital matters affecting aviation, his share in the work of the Committee on the administration and command of the R.F.C. in 1916 standing out conspicuously.

Item

The will of the late HENRY GRAEME ANDERSON, M.D., F.R.C.S., of Maida Vale, W., consulting surgeon to the R.A.F., surgeon to St. Mark's Hospital, and senior assistant surgeon to the Belgrave Hospital for Children, has been proved at £5,282. Dr. Graeme Anderson served during the Great War with the original R.N.A.S. Expeditionary Force, and was the author of several books on surgery, including "The Medical and Surgical Aspects of Aviation." He died on June 28, aged 43.

to contend with was the more or less long periods between contracts when they had very little work to employ their staff. This resulted in the profits made on contracts executed being to a large extent absorbed by losses during the slack time. If they could have continuity of work they would avoid this drawback, and it did seem a pity that a well-equipped factory such as theirs should have these periods of slackness, which to a large extent neutralised the efforts made while contracts were being executed.

170,000 Miles with One Napier Aero Engine

THE quality, reliability and speed of the Napier aero engine are renowned factors in aviation circles, and the latest record of a machine still in service, and which has covered 170,000 miles during the past three years, is a very practical tribute to the "Napier." An enlightening comparison might be made between a car and an aeroplane in this instance. With a car, a fairly average mileage is 10,000 miles a year, and, working on this computation, the distance covered by the Napier engine, equivalent to nearly seven times round the world, would, therefore, take a car about seventeen years to accomplish. This engine is in use by Imperial Airways on their Continental air routes. Were it not for the fact that there are great difficulties in securing records of the mileage covered by similar engines in use by the Royal Air Force, we should, no doubt, obtain some very illuminating statistics.



AN AVRO FOR GREECE: We show above an Avro-Lynx seaplane about to start on a test flight before being delivered to the Greek Government.

THE ROYAL AIR FORCE

London Gazette, August 4, 1925.

General Duties Branch

Flight Lieut. H. J. Roach, A.F.C., is granted a permanent commn. in rank stated (Aug. 5); G. V. Thorpe Thomson is granted a short service commn. as a Flying Officer, with effect from, and with seny. of, July 27. The following Pilot Officers are promoted to rank of Flying Officer:—D. C. Burnley, R. F. de R. Read, L. R. Shaw, C. N. A. B. Mumby (May 15); R. E. Slacke (June 15); N. W. F. Mason (June 19); V. A. C. Ross, T. A. Hale-Munro (July 10); W. Wynter-Morgan, M.C. (Capt., 5th Bn. Glos. R., T.A.) (Aug. 4). Flying Officer E. V. Major (Lieut., R.N., rtd.) is granted the hon. rank of Flight Lieut. (July 6). Air Vice-Marshal Sir I. L. B. Vesey, K.B.E., C.B., C.M.G., D.S.O. (Col., temp. Maj.-Gen., Army), is re-seconded for two years' duty with the R.A.F. (Aug. 1). Flying Officer R. V. Bramwell-Davis (Lieut., R.A.) is re-seconded for a further year's duty with the R.A.F. (Aug. 1). Flight Lieut. W. E. Reason ceases to be seconded for duty with the Union of South Africa Government (July 13). Flying Officer A. F. McC. Riggs, M.C. (Lieut., York, L. Infy., rtd.), resigns his short service commission (Aug. 5).

Stores Branch.

Flying Officer J. Mahoney is placed on retired list (Aug. 1).

Medical Branch.

Squadron Leader H. Harvey is transferred to Reserve, Class D.2 (Aug. 1).

Reserve of Air Force Officers.

The following are granted commissions on probation in Class A, General Duties Branch, in ranks stated (Aug. 4):—*Flying Officers*.—D. H. Drew, A.F.C., C. S. Kent, A. R. Latham, W. Ledlie. *Pilot Officers*.—F. M. Brownlee, R. W. Cawston.

A. B. Roche is granted a commn. in Class B, General Duties Branch, as a Pilot Officer on probation (Aug. 4). L. B. Clarke is granted a commn. in Class C, General Duties Branch, as a Pilot Officer (Aug. 4). The following Flying Officers are promoted to rank of Flight Lieut. (Aug. 4):—L. P. Openshaw, B. A. Trechmann, F. J. Bailey, R. Y. Bush. The following Flying Officers resign their commissions:—R. C. Crawley (July 5); H. D. Humphreys (July 26).

Flight Lieut. H. B. Pett, M.C., is transferred from Class C to Class A (Aug. 4). Pilot Officer J. S. Charlton is removed from the Service (July 24).

Memorandum.

The permission granted to Lieut. C. J. Mahoney to retain rank is withdrawn on his enlistment in the Supplementary Reserve, Army (July 11).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Group Captain.—U. J. D. Bourke, C.M.G., to Air Ministry, 31.7.25, for duty as R.A.F. Representative on Board of Management of N.A.A.F.I.

Wing Commander.—C. Fraser, C.M.G., O.B.E., M.C., to R.A.F. Depot, Uxbridge, pending return to Army, 31.7.25.

Squadron Leaders: F. R. Alford, to R.A.F. Depot, Uxbridge, 4.8.25. F. J. Vincent, D.F.C., to No. 56 Sqdn., Biggin Hill, 11.8.25.

Flight Lieutenants: W. H. Dunn, D.S.C., to No. 4 Sqdn., S. Farnborough, 11.8.25. W. E. Somervell, A.F.C., to No. 4 Sqdn., S. Farnborough, 11.8.25.

E. R. B. Playford, to Sch. of Army Co-operation, Old Sarum, 11.8.25. E. B. Grenfell, A.F.C., to Armament and Gunnery Sch., Eastchurch, 24.8.25.

N. Keeble, D.S.C., D.F.C., to Elec. and Wireless Sch., Flower Down, 20.8.25.

Flying Officers: G. R. Burge, to R.A.F. Depot, Uxbridge, 21.7.25. S. McKeever, to No. 1 Wing H.Q., S. Farnborough, 5.8.25. F. S. Henderson, to Record Office, Ruislip, 6.8.25. G. L. Ormerod and C. D. Palmer, to Armament and Gunnery Sch., Eastchurch, 24.8.25. G. V. T. Thomson, to R.A.F. Depot, Uxbridge, on appointment to short service commn., 27.7.25.

E. Brewerton, D.F.C., to R.A.F. Training Base, Leuchars, 4.8.25. H. N. V. Le V. Noel, D.F.C., to R.A.F. Training Base, Leuchars, 15.7.25.

Pilot Officers.—C. J. Pavia, to R.A.F. Depot, on transfer to Home Estab. 10.7.25. J. F. Young, to No. 2 Flying Training Sch., Digby, 27.7.25.

A. W. B. McDonald, to No. 23 Sqdn., Henlow, 1.7.25.

Stores Branch

Flying Officers: C. P. Wingfield, to Elec. and Wireless Sch., Flower Down, 27.7.25. R. M. Taylor, M.C., to Sch. of Photography, S. Farnborough, 27.7.25. C. W. H. Moller, to No. 1 Flying Training Sch., Netheravon, 27.7.25.

J. F. Young, M.M., to No. 29 Sqdn., Duxford, 27.7.25. F. H. Bedford, M.C., M.M., to Aeroplane and Armament Exptl. Estab., Martlesham, 27.7.25.

Pilot Officers: B. W. Hemsley, to R.A.F. Base, Gosport, 27.7.25. St. J. F. Wintour, to Inland Area Aircraft Depot, Henlow, 27.7.25.

Accountant Branch

Flight Lieutenant H. J. Gilbert, to Sch. of Tech. Training (Men), Manston, 4.8.25.

Flying Officer R. G. Dyer, to No. 12 Sqdn., Andover, 11.8.25.

Medical Branch

Flying Officer T. W. Wilson, to Aeroplane and Armament Exptl. Estab., Martlesham, 4.8.25.

Naval Appointments

The following appointments have been made by the Admiralty:—*Lieut.-Commr.* H. J. Johnstone, lent to R.A.F. for short flying course at No. 1 Flying Training Sch., Netheravon, 10.8.25.

Lieuts.: H. R. M. Nicholl and J. W. Hawkins, attached to R.A.F. for period A., 10.8.25.

IN PARLIAMENT

Cranwell College

MR. BASIL PETO, on July 30, asked the Secretary of State for Air how many cadets are in training at Cranwell and the total personnel at the college?

Lieut.-Col. Sir Samuel Hoare: The answer, according to the strength returns of the cadet college for June 30 last, is 109 cadets and 320 Air Force officers and airmen. As regards the latter figure, I would remind my hon. Friend that the equivalent of approximately two squadrons, with an establishment of 36 machines, are maintained at this station for flying instructional duties, and that the personnel of these units are included in the above. There are also 62 civilians employed as instructors and civilian subordinates at the cadet college.

Halton Technical School

MR. B. PETO asked how many boys are under training at the technical school at Halton and the total personnel at the school?

Sir S. Hoare: The latest strength return for Halton shows 1,843 apprentices under training, and 429 Air Force officers and airmen and 88 civilians employed in the Boys' Sections, but, as explained in my reply to my hon. Friend, the Member for Reading (Mr. H. Williams) on February 25 last, it is difficult to distinguish between the School staff proper and the personnel of the station as a whole, which includes other establishments than the school.

Mr. Peto: Although it may be impossible to distinguish between the personnel of the schools and the staffs proper, is it not a fair conclusion to draw, from the right hon. Gentleman's answer, that in the one case over two members, and in the other case one-half of one member, of the personnel, is required to teach one cadet or one boy?

Sir S. Hoare: I do not think that that would be a fair conclusion to draw from my answer.

Pilots and Observers

Lieut.-Commr. KENWORTHY asked how many fully-qualified pilots and observers, respectively, are in the service of the Royal Air Force and stationed in Great Britain at the present time?

Sir S. Hoare: The numbers of qualified pilots and observers of the General Duties Branch of the Royal Air Force stationed in Great Britain as at June 30 last were 1,457 and 32 respectively.

Captain Brass: Is it not a fact that a large number of these pilots are also observers?

Sir S. Hoare: Yes, Sir, that certainly would be so. The general policy of the Air Ministry is to reduce so far as possible the number of observers.

Air Cadetships

The following are declared by the Civil Service Commissioners to be the successful candidates at the competition held in June, 1925, for admission to the Royal Air Force Cadet College, Cranwell, but their admission is conditional on their having passed a medical examination. In each case the names are in order of merit. A Table of Marks will be sent to each candidate as soon as possible:—

Reservists' Pay

MR. CHARLES EDWARDS (for Mr. W. Baker) asked whether it is proposed to reduce the pay of reservists who may be called up for duty in future?

Sir S. Hoare: The matter is under consideration in connection with the proposal for the general revision of the pay of airmen.

Continental Mails and Air Routes

COLONEL DAY, on July 31, asked the Postmaster-General whether he proposes to extend the present air-mail service between this country and the Continent; what routes are at present in operation; and if arrangements are contemplated for through air-mails between London and the more distant termini?

Sir W. Mitchell-Thomson: The Post Office is prepared to and does take advantage of any new or additional service established by the Air Companies which affords an acceleration, over the ordinary methods of transport, in the delivery of mails.

The air routes to the Continent which are at present used for mails are as follows:

London-Paris-Bale-Zurich (letters and parcels).
London-Brussels-Cologne (letters and parcels).
London-Rotterdam (letters and parcels).
London-Amsterdam-Hanover-Berlin (letters and, to Amsterdam, parcels).
London-Amsterdam-Hamburg-Copenhagen-Malmö (letters).

Each of them is used for mails to the most distant termini served; while advantage is also taken of the services of Continental Air Transport Companies to more distant countries, such as Morocco, the Baltic States and Russia.

R.A.F. Officers' Separation Allowances

MR. HARRISON, on August 3, asked the Secretary of State for Air whether a married officer in the Air Force who is separated from his family, owing to the exigencies of the Service, obtains separate allowance for his wife and bachelor's allowance for himself?

The Secretary of State for Air (Lieut.-Colonel Sir Samuel Hoare): An officer coming within the definition of a "married officer" as laid down in the King's Regulations is eligible for lodging, fuel, and light allowances in respect of his family if separated from them owing to the exigencies of the Service, whilst he himself is provided for as a bachelor.

Louden, J. A. H.; Obbard, R. W.; Ricks, F. J.; Boyce, C. D. C.; Gillan, J. W.; Worthington, F. R.; Kersley, J. A.; Turner, C. H.; Coates, P. U.; Owen, D. G. M.; Charleton, H. W. D.; Denton, K. K.; Hill, E. J.; Butler, W. D.; Vyner-Ellis, W. G.; Pearson, A. C.

King's Cadet who has qualified.—Bartlett, R. J. O.

Colonial Candidate who has qualified.—Berkeley, A. P. F. M.

EGYPT-INDIA AIR SERVICE

A PARLIAMENTARY White Paper was issued on July 28 by Sir Samuel Hoare, Secretary of State for Air, giving details of a supplementary estimate of £10 (token vote) for the Air Service for the year ending March 31, 1926. The object of the vote is to obtain authority of Parliament for the establishment of a civil air transport service between Egypt, Iraq and India.

In an explanatory note the Secretary of State for Air says: "I informed the House of Commons on June 11 that H.M. Government had approved in principle the institution of a Civil Air Service between Egypt and India, and that it was their intention to grant a subsidy for this purpose. It is proposed to enter into a contract with a civil firm for a weekly air transport service between Kantara and Karachi, via Baghdad and Basra, to extend over a period of five years. In addition to the subsidy under this contract certain direct expenditure out of Air Votes will be involved for preparation of aerodromes, ground services, etc.

"The total expenditure to be incurred out of Air Votes on capital services, maintenance and subsidy is estimated at an average of £100,000 per annum over five years.

"The institution of this service will, however, make it possible to terminate the fortnightly mail service at present performed by the Royal Air Force between Egypt and Iraq, and to withdraw in consequence from Iraq a squadron of the Royal Air Force, at a substantial net saving to the State (i.e., a reduction on gross Air Votes and a more than corresponding reduction on the Vote of Middle Eastern Services). In order that the saving referred to may accrue at the earliest possible date, it is desired to take steps to initiate the new service, i.e., to settle a contract and commence the necessary ground preparations. It is not anticipated that additional provision in respect of the subsidy will be required during the current financial year, but liabilities will be incurred on certain works services.

"Any expenditure maturing this year will be accounted for under existing heads of charge. No excess on Air Votes generally is anticipated on this account, but, should it be necessary, Treasury authority will be sought under the terms of the Appropriation Act for the application of savings on other Air Votes to meet any excess occasioned on Air Vote 8. The terms of the subsidy agreement when concluded will be laid before Parliament in a White Paper."

THE ROYAL AIR FORCE MEMORIAL FUND

THE usual fortnightly meeting of the Grants Sub-Committee was held at Iddesleigh House on August 6.

Lieut.-Commander H. E. Perrin was in the Chair, and the other members of the committee were:—Mr. W. S. Field, Squadron Leader E. B. Beauman.

The committee considered in all eleven cases, and made grants to the amount of £63 10s. The next meeting was fixed for August 20.

Some Fokker Type Corrections

REFERENCE has been made in FLIGHT from time to time to the fact that with the Fokker welded-steel tube form of fuselage construction premature standardisation is avoided and changes in design are easily made. The result has been that the famous Dutch aircraft has been able in a short time to produce a large number of different types of machines. Special detachable engine mountings have also been standardised, so that most of the Fokker types can be fitted with either of three or four different types of engine. From a practical point of view, all this is naturally of great value, but to the journalist it is apt to present a stumbling block in that mistakes are easily made as regards types. Even FLIGHT has not altogether escaped such errors, and the Fokker firm has written to point out two which should certainly be corrected. In our article on Fokker construction in the July 16 issue of FLIGHT photographs were published of a machine which was described as a type C.VI, with B.M.W. engine. This should have read C.V. In the Fokker advertisement which appeared in last week's issue a photograph was given of a Fokker commercial monoplane with Rolls-Royce engine, while the text of the advertisement referred to the achievement of a Fokker F.VII reaching a height of 19,000 ft. with a useful load of 1 ton. The combination might give the impression that this performance was attained with the machine shown in the photograph, while actually the F.VII in question was fitted with a Napier "Lion." We tender our apologies to all concerned, the error being due to the rush of producing a special issue.

SOCIETY OF MODEL AERONAUTICAL ENGINEERS

(London Aero-Models Association)

THE attempt on the existing glider record of 53.4 secs. was held on the Sudbury ground on Saturday, July 25. Although this record was not beaten, a considerable amount of good flying was witnessed, the best duration being made by Mr. R. N. Bullock, with a glide of 42.6 secs., whilst Mr. F. de P. Green was a close second with 40.4 secs.

The next competition is for the FLIGHT Cup, and will be held on Saturday, September 5, at Sudbury. For rules see FLIGHT of April 9.

Attempts on hydro-aeroplane records will be held on the Welsh Harp, Hendon, on Saturday, September 19, at 3 o'clock.

The Competition Secretary will be pleased to make arrangements of timing and judging any member's attempts on existing records if duly notified beforehand.

A. E. JONES, Hon. Secretary.

PUBLICATIONS RECEIVED

Caratteristiche Aerodinamiche di ali. Supplemento to Rendiconti Tecnici, June, 1925. Direzione Superiore del Genio e delle Costruzioni Aeronautiche, Viale Giulio Cesare, Rome.

Aero-Photo Survey and Mapping of the Forests of the Irrawaddy Delta. By R. C. Kemp, Maj. C. G. Lewis, C. W. Scott, and C. R. Robbins. *Burma Forest Bulletin* No. 11. January, 1925. Air Survey Co., Ltd., 3, Copthall Buildings, Copthall Avenue, London, E.C. 2.

Modern Wireless, Vols. I, II and III. By Robert W. Beare. London: Virtue & Co., Ltd. Complete in 3 vols. Price £2 2s. the set.

Mecanique de l'Aviation. By Lieutenant-Colonel Alayrac. Gauthier-Villars et Cie., 55, Quai des Grands-Augustins, Paris. Price 50 f.

British Standard Specification for Soft Solders. *British Engineering Standards Association*, No. 219-1925. June, 1925. Crosby, Lockwood and Son. Price 1s. net. Post free 1s. 2d.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1924

Published August 13, 1925

- 14,554. CRANKLESS ENGINES, LTD. Swash-plate or slant type reciprocal rotary mechanisms. (218,637.)
- 17,046. J. D. BATTEN. Motive mechanism for a flapping-wing aerial machine. (237,094.)
- 17,543. H. JUNKERS. Methods of preparing fuels for use in i.c. engines operating with viscous or refractory fuels. (220,291.)
- 21,060. H. G. GIBBS. Kite balloons. (237,125.)
- 26,427. J. C. SAVAGE. Method of producing visible signals from aircraft. (225,203.)
- 26,428. J. C. SAVAGE. Formation of coloured smoke. (231,826.)
- 26,943. E. LEROUX. Compressed-air rotary engine. (237,147.)
- 29,940. P. E. LEROUX. Apparatus for purifying exhaust gases of i.c. engines. (226,221.)

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Published August 13, 1925

- 962. SOC. ANON. NIEUPORT-ASTRA. Light alloys. (228,143.)
- 2,029. C. LORENZEN and LORENZEN TURBINEN AKT.-GES. Means of controlling pitch of variable-pitch propellers. (237,173.)

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